

## WHAT IS CLAIMED IS:

1. A method for controlling an inverter pulse width modulation (PWM) frequency of a liquid crystal display (LCD) in a portable computer, comprising:
  - identifying an LCD frame frequency recorded in a memory provided in an LCD;
  - deriving a PWM frequency of an inverter adapted to control a brightness of the LCD responsive to the identified LCD frame frequency; and
  - driving the LCD in accordance with the derived PWM frequency of the inverter.
2. The method of claim 1, wherein the LCD frame frequency is identified by a vertical sync frequency recorded in the memory provided in the LCD.
3. The method of claim 1, wherein the memory is a non-volatile memory.
4. The method of claim 1, wherein the portable computer is configured to receive a plurality of LCDs, wherein at least two of the LCDs have different frame frequencies.
5. The method of claim 4, wherein the plurality of LCDs are made by different vendors.

6. The method of claim 1, wherein the LCD frame frequency is included in display timing range limit information included in extended display identification data recorded in the memory, and wherein the LCD frame frequency is a vertical sync frequency of the LCD.

7. The method of claim 1, wherein the PWM frequency of the inverter is derived using an equation "PWM frequency =  $V_{sync} \times n - m$ " where  $V_{sync}$  is a vertical sync frequency for the LCD,  $n$  is a positive integer and  $m$  is a constant selected in a range of 15 Hz to 30 Hz.

8. The method of claim 7, wherein values of " $n$ " and " $m$ " are set to 4 and 30, respectively.

9. The method of claim 1, comprising:  
installing a replacement LCD lamp;  
identifying an LCD replacement frame frequency recorded in a memory provided in the replacement LCD lamp, wherein the LCD replacement frame frequency is different from the LCD frame frequency;  
deriving a replacement PWM frequency of the inverter responsive to the identified LCD replacement frame frequency; and  
driving the LCD in accordance with the derived replacement PWM frequency of the inverter.

10. The method of claim 9, wherein the LCD replacement frame frequency is included in the display timing range limit information included the extended display identification data recorded in the memory, and wherein the LCD replacement frame frequency is the vertical sync frequency of the LCD.

11. An apparatus that controls an inverter pulse width modulation (PWM) frequency of a liquid crystal display (LCD) in a portable computer, comprising:

a memory recorded with identification data for an LCD;

an inverter that supplies a voltage to the LCD; and

control means for controlling a PWM frequency of the inverter in accordance with an LCD frame frequency corresponding to the identification data.

12. The apparatus of claim 11, wherein the LCD frame frequency is identified by a vertical sync frequency recorded in the memory provided in the LCD, and wherein the information data is extended display information data.

13. The apparatus of claim 12, wherein the memory includes identification data for a plurality of LCDs.

14. The apparatus of claim 12, wherein the control means sets the PWM frequency of the inverter to a frequency that does not substantially interfere with the vertical sync frequency.

15. The apparatus of claim 12, wherein the control means identifies frame frequency rate information included in display timing range limit information included in the extended display identification data as the vertical sync frequency of the LCD.

16. The apparatus of claim 15, wherein the control means derives the PWM frequency of the inverter using an equation "PWM frequency =  $V_{sync} \cdot n - m$ " where  $V_{sync}$  is a vertical sync frequency for the LCD,  $n$  is a positive integer and  $m$  is a constant selected in a range of 15 Hz to 30 Hz.

17. The apparatus of claim 16, wherein values of " $n$ " and " $m$ " are set to 4 and 30, respectively.

18. The apparatus of claim 11, wherein the LCD is adapted to receive a plurality of LCD lamps, and wherein at least two of the LCD lamps have different frame frequencies.

19. The apparatus of claim 11, wherein the LCD frame frequency is identified in LCD lamp information corresponding to the identification data, wherein the LCD lamp information is in extended display information data stored outside the LCD.

20. The apparatus of claim 11, wherein the memory is an EEPROM provided in a lamp of the LCD or in the LCD.

21. A portable computer, comprising:  
a main CPU in a base module housing an input device;  
a display coupled to the main CPU to display data received from the CPU;  
a memory recorded with identification data for an LCD of the display;  
an inverter that supplies a voltage to the LCD; and  
a controller coupled to the main CPU that controls a PWM frequency of the inverter in accordance with an LCD frame frequency included in the identification data.

22. The portable computer of claim 21, wherein the display is rotatably coupled to the base module.

23. The portable computer of claim 21, wherein a plurality of LCD lamps can be installed in the display, wherein at least two of the LCD lamps have different frame frequencies.

24. The portable computer of claim 23, wherein the controller sets the PWM frequency of the inverter to a frequency not interfering with the frame frequencies of the plurality of LCD lamps.

25. The portable computer of claim 24, wherein the memory is an EEPROM provided in the LCD, and wherein each frame frequency is identified according to a vertical sync frequency.